

ICF Consulting / Laboratory Data Consultants

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MEMORANDUM

Chris Lichens, Remedial Project Manager

Site Cleanup Section 4, SFD-7-4

Rose Fong, ESAT Task Order Manager (TOM) THROUGH:

Quality Assurance (QA) Program, MTS-3

FROM:

TO:

Doug Lindelof, Data Review Task Manager

Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041

Technical Direction Form No.: 00105001

DATE:

July 6, 2006

SUBJECT:

Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:

Omega Chem OU2

Site Account No.:

09 BC LA02

CERCLIS ID No.:

CAD042245001

Case No.:

33916

SDG No.:

Y1QZ5

Laboratory:

Liberty Analytical Corp. (LIBRTY)

Analysis:

Volatiles

Samples:

20 Water Samples (see Case Summary)

Collection Date:

February 28, 2005 through March 3, 2005

Reviewer:

Kendra DeSantolo, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

Cynthia Gurley, CLP PO USEPA Region 4

Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [] Action

SAMPLING ISSUES: [X] Yes

[] No

Data Validation Report

Case No.: 33916 SDG No.: Y1OZ5

Omega Chem OU2 Site:

Laboratory: Liberty Analytical Corp. (LIBRTY) Reviewer: Kendra DeSantolo, ESAT/LDC

Date:

July 6, 2006

I. CASE SUMMARY

Sample Information

Samples: Y1QZ5 through Y1QZ9, Y1R00 through Y1R11,

Y1R13 through Y1R15

Concentration and Matrix: Low Concentration Water

Analysis: Volatiles SOW: OLC03.2

Collection Date: February 28, 2005 through March 3, 2005

Sample Receipt Date: March 2, 3, and 4, 2005

Extraction Date: Not Applicable

Analysis Date: March 3, 4 and 5, 2005

Field QC

Field Blanks (FB): Y1QZ8 and Y1R15

Equipment Blanks (EB): Not Provided Trip Blanks (TB): Not Provided

Background Samples (BG): Not Provided

Field Duplicates (D1): Y1QZ5 and Y1QZ9 Field Duplicates (D2): Y1R07 and Y1R08

Laboratory QC

Method Blanks & Associated Samples:

VBLKYA: Y1QZ6DL, Y1QZ7, Y1QZ8, Y1QZ9DL, and Y1R01

through Y1R06

Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00 VBLKYG:

Y1QZ5DL, Y1R00DL, Y1R11, Y1R06DL, Y1R07, Y1R07DL, Y1R08, Y1R08DL, Y1R09, Y1R10, and VBLKYL:

Y1R13 through Y1R15

VBLKZK: Storage blank VHBLKZN

Tables

1A: Analytical Results with Qualifications

1B: Data Qualifier Definitions for Organic Data Review

Calibration Summary

CLP PO Action

None.

CLP PO Attention

1. Detected results for some analytes are qualified as nondetected and estimated (U,J) due to method blank and field blank contamination (see Comment B).

- 2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments C and D).
- 3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment E).

Sampling Issues

- 1. Detected results for chloroform in samples Y1QZ7, Y1R01 through Y1R05, Y1R10, and Y1R14 are qualified as nondetected and estimated (U,J) due to field blank contamination (see Comment B).
- 2. The laboratory indicated in sample log-in sheets that the cooler temperature indicator bottle was absent in coolers received on March 3 and 4, 2005 (see p. 742 and 743 in data package). The cooler temperatures were recorded using an IR gun (see p. 28 and 30 in data package).

Additional Comments

Other than laboratory artifacts (approximate retention times of 4.1, 7.5, 12.0, and 14.6 minutes), tentatively identified compounds (TICs) were found in samples Y1QZ5, Y1QZ6, Y1ZQ9, and Y1R00 (see attached Alkane Narrative Report).

The laboratory performed manual integrations on calibrations and samples due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

Standard preparation logs are not included in the data package and cannot be evaluated. This information was requested from the laboratory but has not been received to date. Data are not qualified in this report due to missing standard preparation logs. Refer to the attached telephone record log for details.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages;
- USEPA Contract Laboratory Program Statement of Work for Analysis of Low Concentration Organic, OLC03.2, December 2000; and
- USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	<u>Acceptable</u>	<u>Comment</u>
1.	Holding Time/Preservation	Yes	_
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	-
4.	Continuing Calibration	No	C, D
5.	Laboratory Blanks	No	В
6.	Field Blanks	No	В
7.	Deuterated Monitoring Compounds	No.	E
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	,
12.	Compound Quantitation	Yes	A, G, H
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	No	F

N/A = Not Applicable

III. VALIDITY AND COMMENTS

- A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.
 - All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

- B. The following results are qualified as nondetected and estimated due to method blank and field blank contamination and are flagged "U,J" in Table 1A.
 - Chloroform in sample Y1QZ7, Y1R01 through Y1R05, and Y1R14
 - cis-1,3-Dichloropropene in samples Y1R07, Y1R09 through Y1R11, and Y1R13 through Y1R15
 - Methylene chloride in samples Y1QZ5, Y1QZ6, Y1QZ9, Y1R00, Y1R08 through Y1R11, and Y1R13 through Y1R15

Methylene chloride was found in method blanks VBLKYG and VBLKYL and field blank Y1QZ8, cis-1,3-dichloropropene was found in method blank VBLKYL, and chloroform was found in field blanks Y1QZ8 and Y1R15 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected

and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Chloroform results for samples Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00 are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in the associated field blanks Y1QZ8 and Y1R15. Trichloroethene results for samples Y1R07 through Y1R10, Y1R13, and Y1R14 are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in the associated method blank VBLKYL.

The chloroform result for sample Y1R10 (4.2 μ g/L) is not qualified as nondetected and estimated because a field blank was not collected on 3/2/05. Users should note that chloroform may be an artifact because it was found in field blanks Y1QZ8 and Y1R15.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A field blank is clean water prepared as a sample in the field by the sampler and shipped to the laboratory with the samples. A field blank is intended to detect contaminants that may have been introduced in the field, although any laboratory introduced contamination will be present. Contaminants that are found in the field blank which are absent in the laboratory method blank could be indicative of a field QC problem, a deficiency in the bottle preparation procedure, a difference in preparation of the laboratory and field blanks, or other indeterminate error.

- C. Results for the following analyte are qualified as estimated due to low relative response factors (RRFs) in continuing calibrations and are flagged "J" in Table 1A.
 - Acetone in samples Y1QZ5 through Y1QZ9, and Y1R00 through Y1R06 and method blanks VBLKYA and VBLKYG

RRFs were below the 0.05 validation criterion for acetone in continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

- D. Results for the following analytes are qualified as estimated due to large percent differences (%Ds) in continuing calibrations and are flagged "J" in Table 1A.
 - Methyl acetate in samples Y1QZ5, Y1QZ6, Y1QZ9, Y1R00, Y1R07 through Y1R11, and Y1R13 through Y1R15 and method blanks VBLKYG and VBLKYL
 - Tetrachloroethene in samples Y1QZ6 through Y1QZ9 and Y1R01 through Y1R06 and method blank VBLKYA
 - Carbon disulfide, methyl tert-butyl ether, and 1,1-dichloroethane in samples Y1R07 through Y1R11, and Y1R13 through Y1R15 and method blank VBLKYL

%Ds exceeded the ± 30.0 % validation criterion for the analytes listed above in the March 2, 3, and 4, 2005 continuing calibrations (see Table 2).

The DMC vinyl chloride-d3 also had a %D that exceeded the $\pm 30.0\%$ validation criterion in the 3/2/05 continuing calibration (see Table 2). Quantitation of the analytes associated with this DMC may have been affected by the high %D (see attached Table 9 from the Functional Guidelines).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

E. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{Chloroethane-d5}

• Dichlorodifluoromethane in sample Y1OZ9

{1,1-Dichloroethene-d2}

• trans-1,2-Dichloroethene and cis-1,2-dichloroethene in sample Y1QZ5, Y1QZ6, Y1QZ7, Y1QZ9, Y1R00, and Y1R06

{Chloroform-d}

- 1,1-Dichloroethane in samples Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00
- Chloroform in sample Y1R15

{1,2-Dichloroethane-d4}

• 1,1-Dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, methyl tert-butyl ether, and carbon tetrachloride in sample Y1R14

The DMC recoveries outside QC limits are shown below.

<u>Sample</u>	<u>DMC</u>	% Recovery	QC Limits
Y1QZ9	Chloroethane-d5	136	60-126
Y1QZ5	1,1-Dichloroethene-d2	2200	65-130
Y1QZ5DL	1,1-Dichloroethene-d2	160	65-130
Y1QZ6	1,1-Dichloroethene-d2	1480	65-130
Y1QZ7	1,1-Dichloroethene-d2	63	65-130
Y1QZ9	1,1-Dichloroethene-d2	2600	65-130
Y1QZ9DL	1,1-Dichloroethene-d2	162	65-130
Y1R00	1,1-Dichloroethene-d2	3400	65-130
Y1R00DL	1,1-Dichloroethene-d2	135	65-130
Y1R06	1,1-Dichloroethene-d2	177	65-130
Y1R09	1,1-Dichloroethene-d2	138	65-130
Y1R05	2-Butanone-d5	186	42-171
Y1QZ5	Chloroform-d	124	80-123
Y1QZ6	Chloroform-d	134	80-123
Y1QZ9	Chloroform-d	148	80-123
Y1R00	Chloroform-d	220	80-123
Y1R15	Chloroform-d	124	80-123
Y1R14	1,2-Dichloroethane-d4	136	78-129
Y1R15	1,2-Dichloroethane-d4	132	78-129
Y1QZ6DL	1,2-Dichloropropane-d6	77	84-123

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist. Detected results for affected analytes where DMC recoveries exceeded QC limits may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. Recoveries for DMCs 2-butanone-d5 in sample Y1R05 and 1,2-dichloroethane-d4 in sample Y1R15 exceeded QC limits but results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

F. In the analysis of the field duplicate pairs, the following outliers were reported.

	Y1QZ5 (D1)	Y1QZ9 (D1)	·
<u>Analyte</u>	Conc., μ g/L	Conc., μ g/L	<u>RPD (<25%)</u>
Trichlorofluoromethane	350	190	60
1,1-Dichloroethene	780	460	52
1,1,2-Trichloro-			
1,2,2-trifluoroethane	820	450	58
Chloroform	51	34	40

	Y1QZ5 (D1)	Y1QZ9 (D1)	
<u>Analyte</u>	Conc., μ g/L	Conc., µg/L	<u>RPD (<25%)</u>
Trichloroethene	190	130	38
Tetrachloroethene	620	400	-43
· · · · · · · · · · · · · · · · · · ·	Y1R07 (D2)	Y1R08 (D2)	·
Analyte	Conc., μ g/L	Conc., μ g/L	RPD (<25%)
cis-1,2-Dichloroethene	43	31	32

The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

- G. Due to high levels of target analytes, samples Y1QZ7, Y1R01, Y1R02, Y1R04, and Y1R09 were analyzed at 12.5-, 16.7-, 2.5-, 12.5-, and 41.6- dilutions, respectively, and samples Y1R06 through Y1R08, Y1R10, and Y1R13 were analyzed at 25-fold dilutions. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.
- H. Samples Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00 were reanalyzed at 50-, 25-, 25-, and 125-fold dilutions, respectively, due to high levels of chloroform, trichlorofluoromethane, 1,1-dichloroethene, 1, 1, 2-trichloro-1, 2, 2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Sample Y1R06 was reanalyzed at a 125-fold dilution due to high levels of 1, 1, 2-trichloro-1, 2, 2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the 125-fold diluted analysis in Table 1A; results for other analytes are reported from the 25-fold diluted analysis.

Samples Y1R07 and Y1R08 were reanalyzed at 41.6-fold dilution due to high levels of trichloroethene that exceeded the calibration range. Results for reichloroethene are reported from the 41.6-fold diluted analyses in Table 1A; results for other analytes are reported from the 25-fold diluted analyses.

ANALYTICAL RESULTS

Case No.: 33916

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

Date: July 6, 2006

QUALIFIED DATA Concentration in ug/L Analysis Type: Low Level Water Samples

For Volatiles

Station Location Y10Z7 Y1QZ9 Y1R00 Y1R01 Sample ID Y1QZ5 D1 Y1QZ6 Y1QZ8 FΒ D1 2/28/2005 2/28/2005 2/28/2005 2/28/2005 2/28/2005 2/28/2005 Collection Date 2/28/2005 Dilution Factor 1.0 12.5 1.0 1.0 16.7 1.0 1.0 Volatile Compound Result Result Val Com Result Val Com Result Val Com Val Com Result Val Com Result Val Com Result Val Com Dichlorodifluoromethane 0.71 0.38L 6.3U G 0.50U 0.80 Ε 1.5 8.3U G Α Chloromethane 0.50U 0.50U 6.3Ū Ğ 0.50U 0.50U 0.50U 8.3U Ġ G Vinyl Chloride 0.50U 0.50U 6.3U G 0.50U 0.50U 0.50U 8.3U Bromomethane 0.50U 0.50U 6.3U Ģ 0.50U 0.50U 0:50U 8.3U G 8.3U G Chloroethane 0.50U 0.50U 6.3U G 0.50U 0.50U 0.50U 7.2 H. G Trichlorofluoromethane FH 80 Н G 0.50U FH 550 8.3U 350 190 FΗ н 1,1-Dichloroethene 780 FΗ 190 н 8.7 G 0.50U 460 1400 11 G 19 FΗ 1300 1,1,2-Trichloro-1,2,2-trifluoroethane 820 FH 190 Н G 0.50U 450 . 2.7L J. AG. C CG Acetone С C 63U CG 5.0U С 5.0U С .5.0U 83U 5.0U 5.0U J J Carbon Disulfide 0.50U 0.50U 6.3U G 0.50U 0.50U 0.50U 8.3U G Methyl Acetate 0.50U D 0.50U D 6.3U G 0.50U 0.50U J D 0.50U D 8.3U G J Ğ Methylene Chloride 0.500 В 0.50U В 6.3U G 0.12L 0.50U 0.50U В 8.3U J trans-1,2-Dichloroethene 0.281 ΑE 0.25L J ΑE 6.3U EG 0.50U 0.41L ΑE 2,1 J Ε 8.3U G 6.3U `G 6.8 8.9 8.3U G Methyl tert-Butyl Ether 3.4 0.50U 6.1 6.3U Ε 8.3U G 1,1-Dichloroethane 0.92 0.50U Ε 3.7 1.6 Ε J Ε G 1.8 J .I 6.3U E ÄG cis-1,2-Dichloroethene 2.4 Е **∆ 1.3** J E EG 0.50U 2.6 J 14 E 2.7L j 63U 5.0U 5.0U 83U G 2-Butanone 5.0U 5.0U G 5.0U G Bromochloromethane 0.50U 0.50U 6.3U .0.50Ü 0.50U 0.50U 8.3U G Chloroform FΗ н 6.3U 1.5 FΗ 220 Н J BG 51 20 BG 34 8.3U 1,1,1-Trichloroethane 0.87 6.3U G 0.50U 0.97 1.6 8.3U G 0.54 Cyclohexane 0.500 0.50U 6.3U G 0.50U 0.50U 0.50U 8.3U G Carbon Tetrachloride 6.3U G ์ 0.50ปี 0.29L A 8.3Ü G 0.27L 0.34L Α 0.21L 0.26L Α 0.17L 6.3U G 0.50U 0.27L J 0.50 8.3U G Benzene Α Α 2.0 2.3 8.3U G 1,2-Dichloroethane 1.5 6.3U G 0.50U 14 FΗ Н Ġ FΗ 130 0.50U 130 790 35 Trichloroethene 190 60 н ·G Methylcyclohexane 0.500 0.50U 6.3U 0.50U 0.50U 0.50U 8.3U G G 1,2-Dichloropropane 0.50U 8.3U G 0.50U 0.50U 6.3U G 0.50U 0.50U Bromodichloromethane - 3 -0.50U 0.50U 6.3U G 0.50U -7 0.50U 0.50U 8:3U G cis-1.3-Dichloropropene 0.50U 0.50U 6.3U G 0.50U 0.50U 0.50U 8.3U G 63U G 5.0U 5.0U 5.0U 83U ·G 4-Methyl-2-pentanone 5.0U 5.0U 0.50U 0.50U 8.3U G Toluene 0.500 0.50U 6.3U 0.50U G trans-1,3-Dichloropropene 6.3Ú 0.50U 0.50U 0.50U 0.50U G 0.50U 8.3U G. 1.1.2-Trichloroethane 6.3U 0.50U 0.24L 0.66 8.3U 0.22L J Α 0.12L Α G Α G 26 0.50U D 400 DFH 1400 Ĵ DG Tetrachloroethene 620 FH. 210 DΗ DG Ħ 160 63U 5.0U 83U 2-Hexanone 5.0U 5.0U G 5.0U 5.0U Α 0.50U Ğ 0.50U 0.50U Dibromochloromethane 0.50U 6.3U 0.50U 8.3U .G 1,2-Dibromoethane 0.50U 0.50U 6.3U G 0.50U 0.50U 0.50U 8.3U G

Case No.: 33916

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

Date: July 6, 2006

QUALIFIED DATA Concentration in ug/L Analysis Type: Low Level Water Samples

For Volatiles

Station Location :	1			2	•	_	3 .			4			5			6	_	•	7		
Sample ID :	Y1QZ5	D1		Y1QZ6			Y1QZ7			Y1QZ8	FB		Y1QZ9	D1 .		Y1R00			Y1R01		
Collection Date :	2/28/2005			2/28/2005			2/28/2005			2/28/2005			2/28/2005			2/28/2005			2/28/2005		ļ
Dilution Factor :	1.0			1.0			12.5			1.0			1.0			1.0	-		16.7		
Volatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chlorobenzene	0.50U			0.50U			6.3∪		G	0.50Ų			0.50U			0.50U			8.3U		G
Ethylbenzene	0.50∪			0.50U			6.3U		G	0.50U			0.50U			0.50U			8.3U		G
Xylenes (total)	0.50∪			0.50U			6.3U		G	0.50U			0.50∪			0.50U			8.3U		G
Styrene	0.50U			0.50U		4.	6.3U	1	G	0.50U			0.50U			0.50U	-61		8.3U		G
Bromoform	0.50∪			0.50U			6.3U		G	0.50∪			0.50ป			0.50U			8.3U		G
Isopropylbenzene	0.50U			0.50U			6.3∪		G	0.50U			0.50U			0.50U			8.3U		G
1,1,2,2-Tetrachloroethane	0.50U		Water 1 1 m	0.50U			6.3U		G	0.50U			0.50U			0.50∪			8.3U		Ğ
1,3-Dichlorobenzene	0.50U	3		0.50U		. 77	6.3U		G	0.50U	7 7 7	l	0.50U			0.50U			8.3U		G
1,4-Dichlorobenzene	0.50∪		İ	0.50U			6.3U		G	0.50U		l	0.50U			0.50U			8.3U		G
1,2-Dichlorobenzene	0.50Ù			0.50U			6.3U		G	0.50U			0.50U			0.50U			8.3U		G
1,2-Dibromo-3-chloropropane	0.50ป			0.50U			6.3U	.	G	0.50U			0.50U			0.50∪			8.3U		G
1,2,4-Trichlorobenzene	0,50U			0.50U			6.3U		G	0.50U			0.50U			0.50U			8.3U		G
1,2,3-Trichlorobenzene	0.50U			0.50U			6.3U		G	0.50U			. 0.50U			0.50U			8.3U		G

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation LImit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS

Case No.: 33916

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

Date: July 6, 2006

QUALIFIED DATA Concentration in ug/L

Analysis Type: Low Level Water Samples

For Volatiles

Station Location :	0			b			10			11 .			12			113			14		
Sample ID :	Y1R02			Y1R03			Y1R04			Y1R05			Y1R06			Y1R07	D2		Y1R08	D2	
Collection Date :	2/28/2005			2/28/2005			2/28/2005			2/28/2005			3/1/2005			3/2/2005	υz		3/2/2005	D2	
Dilution Factor :	2.5			1.0			12.5			1.0			25.0	_		25.0			25.0		
Volatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dichlorodifluoromethane	1.3U	Vai	G	0.24L	Vai	· A	6.3U	Vai	G	0.15L	.j	A	. 13U	Val	G	3.9L	J	AG	13U	Vai	G
Chloromethane	1.3U		G	0.50U	"	[조유]	6.3U		Ğ	0.50U		- 0 =	130	. ,	G	130	::: 47,53	ξG	130	· 5.57	G
Vinyl Chloride	1.3U	<u></u>	G	0.50U			6.3U		G	0.50U			13U		G	13U	1	G	13U		G
Bromomethane	· 1.3U		G	0.50U			6.3U		- g -	0.50U			13U		G	130		G	13U		G
Chloroethane	1.30		G	0.50U		·- ·'-	6.3U		<u>G</u>	0.50U		´	13U	-i	G G	13U		G	13U		G
Trichlorofluoromethane	1.3U	-,	Ğ	0.50U	·		6.3U			0.50U			200		 G	70	ļ	G	71		· G
1,1-Dichloroethene			G	1.5			1.9L		AG				480		G	140		- G	150		<u>G</u>
The second secon	1.4		3 1 mm -	0.75				. ــــــــــــــــــــــــــــــــــــ		1.2 0.32L	T.			****	GH	Commence of the Control of the Contr		Ğ	PROFESSION AND ADMINISTRA		G.
1,1,2-Trichloro-1,2,2-trifluoroethane Acetone	1:0L		CG	(::-	 C	2.7L 63U	J	CG	7 manual 100 11 0 24	ند است	<u>^</u> ∴. C	1100 130U		CG	240 130U		G	250 130U		G
Carbon Disulfide	13U 1.3U		G	5.0U 0.50U	···		6.3U	·	G	5.0U 0.50U			130U 13U	J	G	13UU 13U		DG	1300	j	DG
Methyl Acetate			- G	0.50U		:				0.50U					- <u>G</u>	13U		DG	13U		DG
Methylene Chloride	1.3U		G∴			7 .	6.3U		G	0.50U	(*	13U		G	13U		G	company of the same of the same of		BG
trans-1,2-Dichloroethene	1.3U		G	0.50U			6.3U 6.3U		G	0:50U			5.4L		AEG	13U		G	13U 13U		G
	1.3U		:G	0.500			6.3U		G	0.500		÷	3.4L 3 22 13U	·	G	13U	l	DG	13U	j	DG
Methyl tert-Butyl Ether	1.3U- 1.3U	نعاست	G	0.50U				****	G	in a second	, ,	معساره لاستك	and highly recommended	÷		130	- J	DG .	13U		DG
1,1-Dichloroethane			AG				6.3U			0.50U			3.1L 130	J	AG EG			FG	1 1 CC 1 Temperature 1 C C C		FG,
2-Butanone	0.54L		G	1.2			6.3U 63U		G	0.50U 5.0U			130U		G	43 130U		G	31 130U		G G
Bromochloromethane	13U	7 EU 11		5.00	:				*							130U	1 (2.17)	***	APPRICA COMPANY OF A 1	- 	G
Chloroform	1.3U	مان الله الله الله الله الله الله الله ال	G	0.50U		В.	6.3U			0.50U 0.50U	الماشكية	В	13U 85		G	18	as Doth	G	13U 17	2202	G
1.1.1-Trichloroethane	1.3U		BG	0.50U 0.50U	<u> </u>		6.3U 6.3U	J	BG G	0.50U	J	,B	13U		G	13U		G	13U		G
Cyclohexane	1.3U		G	0,500	·-		6.3U		G	0.50U			13U		G	13U		G	13U		G
Carbon Tetrachloride	1.3U	mer sterl	G	0.500	75- × 27		6.3U		Ğ	0.50U			13U		G	13U	~ ~	G	13U	egw.	G
Benzene	1.3U		G	0.50U			6.3U		G	0.50U			13U		G	13U		G	13U		G
1.2-Dichloroethane			G	0.50U					~	0.23L			~		G	130		G	13U		G
Trichloroethene	1.3U 4.2	¥	G	4.6		"" _	6.3U 180	era e tat	G.	1.3		* A	16 1200		GH	680		GH	630	•	GH
Methylcyclohexane	1.3U	·v - , - ,	G	0.50U			6.3U	',	G	0.50U			1200 13U		G	13U	·	Ğ	13U		G
1,2-Dichloropropane	1.3U		G	0.50U			6.3U		G	0.50U			13U		G	13U		<u>G</u>	13U		G
	man a series confirmations	_							G	0.50U	355		13U					- G	13U	- ::	G .
the state of the s	1.30	142°E., 1	G	0.50U			244,000.		G	0.50U	2	كالنف		عنف	G G	13U 13U	2	BG		- 22	G
cis-1,3-Dichloropropene 4-Methyl-2-pentanone	1,3U 13U		G	0.50U			6.3U 63U		G	5.00			13U 130U		G	1300		- BG	13U 130U		G
Toluene				5.00	-		6.3U		G	0.50U		<u></u>			G	1300		G	13U		G
trans-1,3-Dichloropropene	1.3U 1.3U		G	0.50U 0.50U	. न ह ा	f. 18	6.3U	mag e	- G	0.50U		7.27%	13U	577	G 🐔	130	5.5	G	130	77,53%	G ~
1,1,2-Trichloroethane			G				6.3U		G	0.50U		11			G	13U		G	13U- 13U		G
Tetrachloroethene	1.3U			0.50U		- _D -			ADG	10		D	13U	···	DGH	420		G	420		G
2-Hexanone	23 13U	- J	DG G	19	السائد في	٠٠٠.	5:2L 63U	۳, · · ·	G	5.00	المحاشد	ן איין	2100 130U		G	130U	'	G	130U	فده تساميين	رو G
Dibromochloromethane	a commendation was to be		******	5.00						0.50U		g.,	130U 13U			1300 13U		G			
	1.3U		G	0.50U			6.3U 6.3U		G	0.50U	<u></u>		13U 13U		G	13U 13U		G	13U 13U		∴G G
1,2-Dibromoethane	1.3U	-	G	0.50U	<u></u>	L	6.30		G	0.500			130		G	130	Щ.	G	130		<u> </u>

Case No.: 33916

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Date: July 6, 2006

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

QUALIFIED DATA Concentration in ug/L Analysis Type: Low Level Water Samples

For Volatiles

Station Location :	8			la			I ₁₀			11		_	12			13			14		
Sample ID :	Y1R02			Y1R03			Y1R04			Y1R05			Y1R06				D2			D2	
Collection Date :	2/28/2005			2/28/2005			2/28/2005			2/28/2005			3/1/2005			3/2/2005			3/2/2005		ŀ
Dilution Factor :	2.5			1.0			12.5			1.0	•		25.0			25.0			25.0		ŀ
Volatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chlorobenzene	1.3U		G	0.50U			6.3U		G	0.50U			· 13U		G	13U		G	13U		G
Ethylbenzene	1.3U		G	0.50U			6.3U		G	0.50U			13U		G	13U		G	13U		G
Xylenes (total)	.1.3U		G	0.50∪			6.3∪		G	0.50∪		Ι.	. 13U		G	13U		G	13U		G
Styrene	1.3U		G	0.50U			6.3U		G	0.50U			13U		G	13U		G	13U		G
Bromoform	1.3U		G	0.50∪		l	6.3U		G	0.50U			13U		G	13U		G	13U		G
Isopropylbenzene	1.3U		G	0.50U			6.3U		G	0.50U			13U		G	13U		G	13U		G
1,1,2,2-Tetrachloroethane	1.3U		G	0.50∪		l	6.3U		G	0.50∪	l		13U		G	13U		G	13U ,		G
1,3-Dichlorobenzene	1.3U		G	0.50U			6.3U		G	0.50∪			13U		G	- 13U		G	- 13U		G
1,4-Dichlorobenzene	1.3U		G	0.50U			6.3U		G	0.50U			13U		G	13U		G	13U		G
1,2-Dichlorobenzene	1.3U		G	0.50U			6.3∪		G	0.50∪			13U`		G	13U		G	13U		G
1,2-Dibromo-3-chloropropane	1,3U		G	0.50U			6.3U		G	0.50∪			13U		G	13U		G	13U		G
1,2,4-Trichlorobenzene	1.3U		. G	0.50U			6.3U		G	0.50U	,		130		G	13U		G	13U		G
1,2,3-Trichlorobenzene	1.3U		G	0.50∪			6.3∪		G	0.50U			13U		G	13U		G	13U		G

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Llmit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS

Case No.: 33916

1,2-Dibromoethane

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

21U

13U

0.50U

Date: July 6, 2006

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples

For Volatiles

Station Location Method Blank 19 Y1R10 Y1R11 Y1R13 Y1R14 Y1R15 FΒ **VBLKYA** Sample ID Y1R09 3/2/2005 3/2/2005 3/3/2005 3/3/2005 Collection Date 3/2/2005 3/3/2005 Dilution Factor 41.6 25.0 1.0 25.0 1.0 1.0 1.0 Vai Volatile Compound Result Val Com Result Val Result Val Val Com Result Val Com Result Val Com Result Com Com Com Result Dichlorodifluoromethane G 0.50U 21U 13U G 0.50U 13U G 0.50L 0.50U 0.50U Chloromethane 21U G 13Ú G 0.50U 13U G 0.50U 0.50U G. 13U 0.50U 0.50U Vinyl Chloride 21U G 0.50U 13U G 0.50U 210 G Ğ G 0.50U Bromomethane 13U 0.50U 13U 0.50U 0.50U 21U G G 0.50U G 0.50U 0.500 0.50U Chloroethane 13U 13U G 13Ü G AG 0.50U Trichlorofluoromethane 250 0.50U 6.3L 0.50U 0.50U 0.50U 0.50U 1,1-Dichloroethene 600 G 23 G 0.50U 11L AG 0.60 Ε Ĝ 0.50U 0.50U AG G 0.76 Е 1,1,2-Trichloro-1,2,2-triffuoroethane 500 4.6L 0.50U 18 5.0U Acetone 210U G 130U G 5.0U 130U G 5.00 5.0U С Carbon Disulfide 21U DG 13U DG 0.50U D 13U DG 0.50U D 0.500 D 0.50U 0.50U Methyl Acetate 21U DG 13U J DG 0.50U J D 13U DG 0.50U J D J D 0.50U B Methylene Chloride . 21U ٠Ĵ. BG 13U BG 0.50U ٠J٠ - B 13U BG 0:50U ij. -0:50U В 0.50U trans-1,2-Dichloroethene 21U 13U G 0.50U 13U G 0.50U 0.50U 0.50U Methyl tert-Butyl Ether 2¹U DG 13Ü DG 0.24L ADE 0.50U 0.50U 13U DG 0.11L AD D 1,1-Dichloroethane 21U DG 13U DG 0.50U D 13U J DG 0.50U J D 0.50U J D 0.50U J J 0.50U cis-1,2-Dichloroethene Ğ 13Ú G 3.1L AG 0.50U 21U 0.50U 1.2 5.0U 210U G 130U Ģ 5.0U 130U G 5.0U 5.0U 2-Butanone 0.50U Bromochloromethane; 21U G 13U G. 0.50U 13U G-0.500 0.50U 0.50U Chloroform 140 G AG 0.50U 13U G 0.50U В 2.6 Е 4.2L J G 0.50U 1,1,1-Trichloroethane 21U G 13U 0.50U 13U G 0.50U 0.50U Cyclohexane 21U G 13U G -0.50U 13U G 0.50U 0.50U 0.50U Carbon Tetrachloride 21U G 13U G 0.50U 13U Ğ 0.19L ΑE 0.50U 0.50U G G 0.50U 0.50U Benzene 21U G 13U 0.500 13U 0.50U 1,2 Dichloroethane 21U G G, 13U G 0.50U 0.500 0.50U 13U 0.50U 130 G G 0.50U G 0.500 0.50U Trichloroethene 30 290 0.68 Methylcyclohexane 21U G 13U Ğ 0.50U .13U G 0.50U 0.50↓ 0.50U 0.50U 21U G 13U 0.50U 0.50U 1,2-Dichloropropane 13U G 0.50U G G 0.50U Bromodichloromethane G 13U 0.50U 0.50U 21U 13U 0.50U G cis-1,3-Dichloropropene 21U ВG 13U BG 0.50U В 13U BG 0.50U 0.50U В 0.50U _130U G 4-Methyl-2-pentanone 210U G _130U ĘG, . 5.0U . 5.0U 5.0U 5.0U \$4° £. 4. 21U G 13U G 0.50U 13U G 0.50U 0.50U 0.50U Toluene trans-1,3-Dichloropropene 21U G 13U Ģ 0.50U 13U G 0.50U 0.50U 0.50U 0.50U 1.1.2-Trichloroethane 21U G 13U 0.50U 13U G 0.50U 0.50U Ģ Tetrachloroethene 790 G 270 G 0.32L 94 G 6.3 0.500 0.50U J. D Α 210U G 130U G 5.0U 5.0U G. 5.0U 130U 5.0U 2-Hexanone G Ĝ Dibromochloromethane - 21U 13U G: 0.50U 13U 0.50U 0.50U 0.50U وفيطر

13U

0.500

0.50L

0.500

Case No.: 33916

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

Date: July 6, 2006

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples

For Volatiles

Station Location :	15			16			17			19	-		20			21			Method Blan	k	
Sample ID :	Y1R09			Y1R10		,	Y1R11			Y1R13			Y1R14			Y1R15	FB		VBLKYA		
Collection Date :	3/2/2005			3/2/2005			3/2/2005			3/3/2005			3/3/2005			3/3/2005					
Dilution Factor :	41.6			25.0			1.0			25.0			1.0			1.0			1.0		
Volatile Compound	Result	Vai	Com	Result	Val	Com	Result	Val	Com												
Chlorobenzene	21U		G	13U		G	0.50Ų			13U		G	0.50U			0.50ป			0.50U		
Ethylbenzene .	. 21U		G	13U		G	0.50U			13U		G	0.50U			0.50U			0.50U	_:	A
Xylenes (total)	21U		G	13U		G	·0.50U			13U		G	0.50U			0.50U			0.50U		
Styrene	21U		Ğ	13U		G	0.50U			13U		G	0.50U			0.50∪			0.50Ų		
Bromoform	21U		G	13U		G	0.50U			13U		G	0.50U			0.50∪			0.50U		
Isopropylbenzene	21Ú		G	13U		G	0.50U			13U		G	0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	21U		G	13U		G	0.50U			13U		G	0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	21U		G	13U		Ğ	0.50U			13U		G	0.50∪			0.50U			0.50U		
1,4-Dichlorobenzene	21U		G	13U		G	0.50U			13U		G	0.50∪			0.50U			0.50U		
1,2-Dichlorobenzene	210		G	130		G	0.50U			130		G	0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	21U		G	13U		G	0.50U			13U		G	0.50U			0.50∪			0.50U		
1,2,4-Trichlorobenzene	21U		Ğ	13U		G	0.50U			13U		G	0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	21U		G	13U		G	0.50U			13U		G	0.50U			0.50U			0.50U	I	

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Llmit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS

Case No.: 33916

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

Date: July 6, 2006

QUALIFIED DATA

Concentration in ug/L

Analysis Type: Low Level Water Samples

For Volatiles

Station Location Method Blank Method Blank Method Blank Storage Blank Sample ID **VBLKYG VBLKYL** VBLKZK VHBLKZN CRQL Collection Date Dilution Factor: 1.0 1.0 1.0 1.0 Volatile Compound Result Val Com Dichlorodifluoromethane 0.50U 0.50U 0.500 0.50U 0.50 Chloromethane 0.50U 0.500 0.500 0.50U 0.50 Vinyl Chloride 0.50U 0.50U 0.50U 0.50U 0.50 Bromomethane 0.50U 0.50U 0.50U 0.50U 0.50 Chloroethane 0.50U 0.50U 0.50U 0.50U 0.50 Trichlorofluoromethane 0.50U 0.50U 0.50U 0.50U 0.50 0.50U 1,1-Dichloroethene 0.500 0.50U 0.50U 0.50 1,1,2-Trichloro-1,2,2-trifluoroethane 0.50Ü 0.50U 0.50U 0.50U 0.50 Acetone 5.0U С 5.0U 5.00 5.0U 5.0 Carbon Disulfide 0.50U 0.50U D 0.50U 0.50U 0.50 Methyl Acetate 0.50U D 0.50U D 0.50U 0.50U 0.50 Methylene Chloride 0.13L Α 0.13L Α 0.50U 0.50U 0.50 trans-1,2-Dichloroethene 0.500 0.50U 0.50U 0.50U 0.50 Methyl tert-Butyl Ether 0.50U 0.50U -D* 0:500 0.50U 0.50 1,1-Dichloroethane 0.50U 0.50U D 0.50U 0.50U 0.50 cis-1,2-Dichloroethene 0.50U 0.50U 0.50U 0.50U 0.50 2-Butanone 5.0U 5.0U 5.0U 5.0U 5.0 Bromochloromethane 0.50U 0.50U 0.50U 0.50U 0.50 Chloroform 0.50U 0.50U 0.50U 0.50U 0.50 1,1,1-Trichloroethane 0.50U 0.50U 0.50U 0.50U 0.50 Cyclohexane 0.50U 0.50U 0.50U 0.50U 0.50 Carbon Tetrachloride 0.50U 0.50U 0.50U 0.50U 0.50 Benzene 0.50U 0.50U 0.50U 0.50U 0.50 1,2-Dichloroethane 0.50U 0.50U 0.50U 0.500 0.50 Trichloroethene 0.50U 0.50U 0.50U 0.50 0.11L Α Methylcyclohexane 0.50U 0.500 0.50U 0.50U 0.50 1,2-Dichloropropane 0.50U 0.50U 0.50U 0.50U 0.50 0.50U 0.50U Bromodichloromethane 0.50U 0.50U 0.50 cis-1,3-Dichloropropene 0.50U 0.11L Α 0.50U 0.50U 0.50 4-Methyl-2-pentanone 5.0U 5.0U 5.0U 5.0U 5.0 Toluene 0.50U 0.50U 0.50 0.50U 0.24L J Α trans-1,3-Dichloropropene 0.50U 0.50U 0.50U 0.50Ú 0.50 1,1,2-Trichloroethane 0.50U 0.50U 0.50U 0.50U 0.50 Tetrachloroethene 0.50U 0.50U 0.50U 0.50U 0.50 2-Hexanone 5.0U 5.0 5.0U 5.0U 5.0U 0.50U 0.50U 0:50U 0.50 0.50U , e 1,2-Dibromoethane 0.50U 0.50U 0.50U 0.50U 0.50

Case No.: 33916

SDG No.: Y1QZ5

Table 1A

Site: OMEGA CHEM OU2

Lab: LIBERTY ANALYTICAL CORPORATION

Reviewer: Kendra DeSantolo, ESAT/LDC

Date: July 6, 2006

QUALIFIED DATA .
Concentration in ug/L

Analysis Type: Low Level Water Samples

For Volatiles

Station Location :	Method Blank	k		Method Blanl	k		Method Blan	k		Storage Blan	k								<u> </u>		
Sample ID :	VBLKYG			VBLKYL			VBLKZK			VHBLKZN			CRQL								
Collection Date :																					
Dilution Factor :	1.0			1.0		<u> </u>	1.0			1.0											
Volatile Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com						
Chlorobenzene	0.50U			0.50U			0.50U	Ī		0.50U			0.50								I
Ethylbenzene	0.50∪			0.50U			0.50U			0.50U			0.50								
Xylenes (total)	0.50∪			0.50U			0.50U			0.50ป			0.50								
Styrene	0.50U			0.50U			0.50U			0.50U	:		0.50								2
Bromoform	0.50U			0.50U			0.50∪			0.50U			0.50					1			
Isopropylbenzene	0.50U		*	0.50U			0.50U			0.50U			0.50					: , .			
1,1,2,2-Tetrachloroethane	0.50U			0.50∪			0.50∪	l		0.50∪			0.50	l.			1			1	
1,3-Dichlorobenzene	0.50U			0.50U			0.50∪			0.50U			0.50			***************************************					
1,4-Dichlorobenzene	0.50U			0.50U			0.50U	l		0.50U			0.50				l				.,
1,2-Dichlorobenzene	0.50U			0.500			0.50U			0.50U			0.50								7 7
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50∪			0.50U			0.50								
1,2,4-Trichlorobenzene	0.12L	J,	Α	0.50U			0.50U			0.50U	. There		0.50				,			4	
1,2,3-Trichlorobenzene	0.12L	J	Α	0.50U			0.50U			0.50U			0.50		•			<u> </u>		<u> </u>	

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Llmit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

- U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Table 2 Calibration Summary

Case No.: 33916 SDG No.: Y1QZ5

Site: Omega Chem OU2

Laboratory: Liberty Analytical Corp. (LIBRTY) Reviewer: Kendra DeSantolo, ESAT/LDC

Date: July 6, 2006

RELATIVE RESPONSE FACTORS (RRF)

	RRF	RRF
Analysis date:	3/02/05	3/03/05
Analysis time:	23:09	22:28
GC/MS I.D.:	5972HP71	5972HP71
Analyte	Cont.	Cont.
Acetone	0.039	0.048

PERCENT DIFFERENCES (%D)

	<u>%D</u>	<u>%D</u>	<u>%D</u>
Analysis Date:	3/02/05	3/03/05	3/04/05
Analysis Time:	23:09	22:28	15:34
GC/MS I.D.:	5972HP71	5972HP71	5972HP7
<u>Analyte</u>	Cont.	Cont.	Cont.
Carbon disulfide		,	-35.0
1,1-Dichloroethane			-32.0
Methyl acetate	-32.3		-38.6
Methyl tert-butyl ether			-34.1
Tetrachloroethene		+33.0	
Vinyl chloride-d3	-36.4		

^{- =} RRF biased low; + = RRF biased high.

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial 2/23/05: All samples, all method blanks, storage blank VBLKZN

Cont., 3/02/05 (23:09): Samples Y1QZ5, Y1QZ6, Y1QZ9, Y1R00, method blank VBLKYG Cont., 3/03/05 (22:28): Samples Y1QZ6DL, Y1QZ7, Y1QZ8, Y1QZ9DL, Y1R01 through

Y1R06, method blank VBLKYA

Cont., 3/04/05 (15:34): Samples Y1QZ5DL, Y1R00DL, Y1R06DL, Y1R07, Y1R07DL,

Y1R08, Y1R08DL, Y1R09, Y1R10, Y1R11, Y1R13 through Y1R15,

method blank VBLKYL

Cont., 3/05/05 (22:16): Storage blank VHBLKZN, method blank VBLKZK.

ALKANE NARRATIVE REPORT Report date : 03/08/2005 SDG: Y1QZ5

Client Sample ID: Y1QZ5 Lab Sampl Compound	E ID: 584501 File RT Est. Conc.	ID: 584501B71 Q
Branched Alkane Ethane, dichlorotrifluoron Branched Alkane Branched Alkane Ethane, tetrachlorodifluoron	5.38 - 7.4 5.47 3.2 9.00 1.8	JN
Client Sample ID: Y1QZ6 Lab Sampl Compound	BB B . A	ID: 584502B71 Q
Branched Alkane Ethane dichlonatrifluors-	5.38 3.7	JA JA JA
Client Sample ID: Y1QZ9 Lab Sampl Compound	e ID: 584505 File RT Est Conc.	ID: 584505B71 Q
Branched Alkane Ethane dichloratrifluers	5.38 7.5 5.47 2.8 8.99 1.9	J J
Client Sample ID: Y1R00 Lab Sampl Compound	e ID: 584506 File RT Est. Conc.	ID: 584506B71 Q
Branched Alkane Ethane, dichloretriflueron Branched Alkane Branched Alkane Ethane, tetrachlorediflueron Branched Alkane	5.38 9.8 5.47 5.3 8.99 2.9 9.66 0.53	J J J J
Client Sample ID: Y1QZ6DL Lab Sampl Compound	e ID: 584502 File RT Est. Conc.	ID: 584502DB71 Q
Branched Alkane Ethanic, dichloratriffeoro-		JD

SL, 7/406.

In Reference to Case: 33916, SDG No.: Y1QZ5

Contract Laboratory Program REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: July 5, 2006
Laboratory Name: CompuChem/Liberty
Lab Contact: Bob Meierer
Region: 9
Regional Contact: Steve Remaley, CLP PO
ESAT Reviewer: Santiago Lee, ESAT/LDC
Call Initiated By: Laboratory X Region
In reference to data for the following sample(s):
SDG No.: Y1QZ5 (VOA)
Summary of Questions/issues Discussed:
The following items were noted during the review of this sample delivery group (SDG) data package. Please respond within 7 days as specified in OLC03.2 Statement of Work (SOW), Exhibit B, Section 2, 2.2. Send response and resubmissions to
ICF Consulting, Inc./Laboratory Data Consultants, Inc., Environmental Services Assistance Team, USEPA Region 9 Laboratory 1337 S. 46th Street, Building 201, Richmond, CA 94804, FAX (510) 412-2304.
1. In order to fully validate the data packages, Region 9 requests the following informatic for all standards (calibration and QC): expiration date of standard, preparation date, lot number, standard source (name of vendor), concentration and volume of spiking and L Solutions. Please provide the above listed data.
Summary of Resolution: To be determined.
Regional Contact Signature Date of Resolution

Table 9. Volatile Deuterated Monitoring Compounds and the Associated Target Compounds

Chlorosthane-d5 (OMC)	1,2-Diuhloropropane-d6 (DMC)	1,2-Dichlorobanzene-d4 (IMC)
Dichlorodifluoromethane	Cyclohexane	Chorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene
Bromoform-d (DMC)	trans-1,3-Dichloropropene-d4 (DMC)	Chloroform-d (DMC)
Dibromochloromethane	cis-1,3-Dichloropropene	1,1-Dichloroethane
1,2-Dibromoethane	trans-1,3-Dichloropropene	Bromochloromethane
Bromoform	1,1,2-Trichloroethane	Chloroform
2-Butanone-d5 (DMC)	1,1-Dichloraethene-d2 (DMC)	2-Hexanone-d5 (DMC)
Acetone	trans-1,2-Dichloroethene	4-Methyl-2-pentanone
2-Витапопе	cis-1,2-Dichleroethene	2-Hexanone
Vinyl Chloride-d3 (DMC)	Beazene-d6 (DMC)	1,1,2,2-Tetrachloroethane-d2 (DMC)
Vinyl Chloride	Benzene	1,1,2,2,-Tetrachlororethane
		1,2-Dibromo-3-chloropropane
1,2-Dichloroethane-d4 (DMC)	Toulene-d8 (DIVIC)	
Frich lorofluoromethane	Trichloroethene	
1.1-Dichloroethene	Toluene	•
1,1,2-Trichloro-1,2,2- trifluoroethane	Tetrachloroethene	
Methyl Acetate	Ethylbenzene	
Wethylene Chloride	Xylenes (total)	
viethyl tert-Butyl Ether	Styrene	
, L, E-Trichloroethane	Isopropylbenzene	·
Carbon Tetrachloride		

USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review (EPA-540-R-00-006, June 2001)